IN THE CLAIMS

Please amend claims 2, 6, 14, 15, 19, and 31 as follows:

1. (Previously Presented) A method for reducing the crest factor of a signal, said method using a plurality of partial correction signals having respective predetermined frequencies, said method comprising:

(a) determining a time position of a maximum absolute amplitude of the signal,

(b) calculating an amplitude and a phase for the respective partial correction signal depending on said maximum absolute amplitude and said time position determined in step (a),

(c) subtracting the respective partial correction signal from said signal to obtain a partially corrected signal which is used as the signal in step (a) for the next one of the plurality of partial correction signals, and returning to step (a) for calculating an amplitude and a phase for the next partial correction signal, and

(d) outputting the last obtained partially corrected signal as the corrected signal having the reduced crest factor.

2. (Currently Amended) A method for reducing the crest factor of a signal, said method using a plurality of partial correction signals having respective predetermined frequencies, said method comprising:

(a) determining a time position of a maximum absolute amplitude of the signal,

(b) calculating an amplitude and a phase for the respective partial correction signal depending on said maximum absolute amplitude and said time position determined in step (a),

(c) subtracting the respective partial correction signal from said signal to obtain a partially corrected signal which is used as the signal in step (a) for the next one of the plurality of partial correction signals, and returning to step (a) for calculating an amplitude and a phase for the next partial correction signal, and

~~The method according to claim 1, wherein instead of step (d) the steps of~~

(d1) calculating a full correction signal as a superposition of said plurality of partial correction signals,

(d2) subtracting the full correction signal from said signal to obtain the corrected signal having the reduced crest factor, and

(d3) outputting said corrected signal are performed.

3. (Previously Presented) The method according to claim 1, wherein steps (a) to (c) are repeated for at least two iterations for each one of the plurality of partial correction signals.

4. (Original) The method according to claim 3, where a maximum number of iterations is predetermined.

5. (Previously Presented) The method according to claim 3, wherein steps (a) to (c) are repeated for each one of the plurality of partial correction signals until a maximum absolute amplitude of the partially corrected signal is below a predetermined value.

6. (Currently Amended) A method for reducing the crest factor of a signal, said method using a plurality of partial correction signals having respective predetermined frequencies, said method comprising:

(a) determining a time position of a maximum absolute amplitude of the signal,

(b1) calculating an amplitude and a phase for the respective partial correction signal depending on said maximum absolute amplitude and said time position determined in step (a),~~The method according to claim 3, wherein in step (b)~~

(b2) storing the calculated amplitude and phase values,~~are stored, and wherein step (d) is replaced by the steps of~~

(c) subtracting the respective partial correction signal from said signal to obtain a partially corrected signal which is used as the signal in step (a) for the next one of the plurality of partial correction signals, and returning to step (a) for calculating an amplitude and a phase for the next partial correction signal, wherein steps (a) to (c) are repeated for at least two iterations for each one of the plurality of partial correction signals, and

(d1) calculating a plurality of further partial correction signals having the respective

redetermined frequency, each one as a superposition of the partial correction signals having the respective predetermined frequency in the stored phases and amplitudes calculated in steps (d) for this frequency,

(d2) subtracting the plurality of further partial correction signals from said signal to obtain the corrected signal, and

(d3) outputting said corrected signal.

7. (Previously Presented) The method according to claim 1, wherein step (b) comprises the steps of (b1) calculating said amplitude according to $A = g \cdot \left(\max\{x(t) \cdot \cos(2\pi f(t - t\max))\} + \min\{x(t) \cdot \cos(2\pi f(t - t\max))\}\right)$, A being the amplitude, g being a predetermined factor, f being the respective predetermined frequency, t being the time, $t\max$ being said time position and $x(t)$ being said signal, and
(b2) calculating said phase p according to $p = 2\pi f \cdot t\max$

8. (Previously Presented) The method according to claim 1, wherein the signal is a sampled signal represented as a signal vector of N signal values at N sampling times.

9. (Previously Presented) The method according to claim 8, wherein step (b) comprises the steps of (b1) calculating said amplitude according to the formula
$A = g \cdot \left(\max\{x(k) \cdot \cos(2\pi\mu(k - k\max)/N)\} + \min(x(k) \cdot \cos(2\pi\mu(k - k\max)/N)\}\right)$,
A being the amplitude, g being a predetermined factor, μ being a number of the respective predetermined frequency, k being a number of the sample, $k\max$ being this number of the sample at said time position, and $x(k)$ being a k-th component of said signal vector, and
(b2) calculating said phase p according to $p = 2\pi\mu \cdot k\max/N$.

10. (Previously Presented) The method according to claim 9, wherein values for μ have the form $2^{\ell} \cdot v$, ℓ and v being integer numbers.

11. (Original) The method according to claim 9, wherein cosine values of the formula are calculated using a sine or cosine table.

12. (Previously Presented) The method according to claim 1, wherein the signal is a multi-carrier signal.

13. (Previously Presented) The method according to claim 12, wherein the signal is a discrete tone modulated signal.

14. (Currently Amended) A method for reducing the crest factor of a signal, said method using a plurality of partial correction signals having respective predetermined frequencies, said method comprising:

(a) determining a time position of a maximum absolute amplitude of the signal,

(b) comparing the maximum absolute amplitude determined in step (a) with a predetermined value,

wherein if the maximum absolute amplitude is above the predetermined value the following steps are performed:

(c) calculating an amplitude and a phase for the respective partial correction signal depending on said maximum absolute amplitude and said time position determined in step (a),

(d) subtracting the respective partial correction signal from said signal to obtain a partially corrected signal which is used as the signal in step (a) for the next one of the plurality of partial correction signals, and returning to step (a) for calculating an amplitude and a phase for the next partial correction signal, and

(e) outputting the last obtained partially corrected signal as the corrected signal having the reduced crest factor, and

wherein if ~~The method according to claim 1, wherein, when~~ the maximum absolute amplitude ~~determined in step (a)~~ is below the~~a~~ predetermined value, the following step is performed:

(f) outputting~~steps (b) to (d) are omitted and~~ the signal~~ is output~~.

15. (Currently Amended) A method for reducing the crest factor of a signal, wherein the signal is a sampled signal represented as a signal vector of N signal values at N sampling times, said method using a plurality of partial correction vectors having respective predetermined frequencies, said method comprising:
~~The method according to claim 8, wherein said method, before step (a), comprises the steps of~~

(a1) forming a first auxiliary vector containing as elements M signal values having the M largest absolute values of the N signal values, M being smaller than N,

(a2) forming a second auxiliary vector indicating the positions of the elements of the first auxiliary vector in the signal vector,

(a3) determining a time position of a maximum absolute amplitude of the first auxiliary vector using phase information of the second auxiliary vector,

(b) calculating an amplitude and a phase for a respective partial correction vector depending on said maximum absolute amplitude and said time position determined in step (a3),

(c) subtracting the respective partial correction vector from the first auxiliary vector to obtain a partially corrected vector which is used as the first auxiliary vector in step (a3) for the next one of the plurality of partial correction vector, and returning to step (a3) for calculating an amplitude and a phase for the next partial correction vector.~~wherein steps (a) to (c) are performed on the first auxiliary vector instead of on the signal using phase information of the second auxiliary vector, and wherein, instead of step (d), the following steps are performed:~~

(d1) calculating a correction vector for the signal vector based on said amplitudes and said phases calculated in step (b) translated to phases for the signal vector using the second auxiliary vector,

(d2) subtracting said correction vector from said signal vector to obtain a corrected signal vector, and

(d3) outputting a signal corresponding to said corrected signal vector as the corrected signal having the reduced crest factor.

16. (Previously Presented) The method according to claim 15, wherein step (b) comprises the steps of (b1) calculating said amplitude according to

$$A = g \cdot \left(\max\{xm(k) \cdot \cos(2\pi\mu(pm(k) - pm(k\max))/N)\} + \right.$$
$$\left. + \min\{xm(k) \cdot \cos(2\pi\mu(pm(k) - pm(k\max))/N)\}\right),$$

A being the amplitude, g being a predetermined factor, μ being a number of the respective predetermined frequency, k being a number of the sample, $k\max$ being the number of the sample at said time position, $xm(k)$ being element k of said first auxiliary vector, $pm(k)$ being element k of said second auxiliary vector, and (b2) calculating said phase p according to

$p = 2\pi\mu \cdot k\max/N$.

17. (Previously Presented) The method according to claim 15, wherein steps (a1) and (a2) comprise the steps of:

(aa1) assigning the M last elements of the signal vector to elements of the first auxiliary vector,

(aa2) assigning the M last sample positions of the signal vector to the elements of the second auxiliary vector,

(aa3) setting a counter to 0,

(aa4) determining the element of the first auxiliary vector having the smallest absolute amplitude,

(aa5) incrementing the counter by 1,

(aa6) checking if the element of the signal vector designated by the counter has a larger absolute amplitude than the element of the first auxiliary vector having the smallest absolute amplitude, and, if not, returning to step (aa5),

(aa7) replacing the element of the first auxiliary vector having the smallest absolute amplitude by the element of the signal vector designated by the counter, and replacing the corresponding element of the second auxiliary vector by the counter,

(aa8) returning to step (aa4) until the counter has reached $N - M$.

18. (Previously Presented) An apparatus for reducing the crest factor of a signal using a plurality of partial correction signals having respective predetermined frequencies,
said apparatus comprising processing means designed to carry out, for each one of said partial correction signals, the steps of:

(a) determining a time position of a maximum absolute amplitude of the signal,

(b) calculating an amplitude and a phase for the respective partial correction signal depending on said maximum absolute amplitude and said time position determined in step (a),

(c) subtracting the respective partial correction signal from said signal to obtain a partially corrected signal which is used as the signal in step (a) for the next one of the plurality of partial correction signals, and returning to step (a) for calculating an amplitude and a phase for the next partial correction signal, said apparatus further comprising output means for outputting the last obtained partially corrected signal as the corrected signal having the reduced crest factor.

19. (Currently Amended) ~~The apparatus according to claim 18, wherein the~~ An apparatus for reducing the crest factor of a signal using a plurality of partial correction signals having respective predetermined frequencies, said apparatus comprising:

processing means designed to carry out, for each one of said partial correction signals, the steps of:

(a) determining a time position of a maximum absolute amplitude of the signal,

(b) calculating an amplitude and a phase for the respective partial correction signal depending on said maximum absolute amplitude and said time position determined in step (a),

(c) subtracting the respective partial correction signal from said signal to obtain a partially corrected signal which is used as the signal in step (a) for the next one of the plurality of partial correction signals, and returning to step (a) for calculating an amplitude and a phase for the next partial correction signal, and

output~~ting~~ means ~~are~~ designed to carry out the steps of:

(d1) calculating a full correction signal as a superposition of said plurality of partial correction signals,

(d2) subtracting the full correction signal from said signal to obtain the corrected signal having the reduced crest factor, and

(d3) outputting said corrected signal.

20. (Previously Presented) The apparatus according to claim 18, wherein the processing means are designed to repeat steps (a) to (c) for at least two iterations for each one of the plurality of partial correction signals.

21. (Previously Presented) The apparatus according to claim 20, where a maximum number of iterations is predetermined.

22. (Previously Presented) The apparatus according to claim 20, said apparatus further comprising comparison means for comparing a maximum absolute amplitude of said partially corrected signal with a predetermined value, said comparison means being coupled with said processing means such that steps (a) to (c) are repeated for each one of the plurality of partial correction signals until said maximum absolute amplitude of the partially corrected signal is below said predetermined value.

23. (Previously Presented) The apparatus according to claim 20, further comprising storage means for storing the calculated amplitude and phase values in step (b), and wherein the outputting means are designed such that they perform the steps of

(d1) calculating a plurality of further partial correction signals having the predetermined frequencies each as a superposition of the partial correction signals having the respective predetermined frequency phases and amplitudes stored in the storage means for this frequency

(d2) subtracting the plurality of further partial correction signals from said signal to obtain the corrected signal, and

(d3) outputting said corrected signal.

24. (Previously Presented) The apparatus according to claim 18, wherein the processing means are designed such that they carry out in step (b) the steps of
(b1) calculating said amplitude according to
$A = g \cdot \left(\max\{x(t) \cdot \cos(2\pi f(t - t\max))\} + \min\{x(t) \cdot \cos(2\pi f(t - t\max))\}\right),$
A being the amplitude, g being a predetermined factor, f being the respective predetermined frequency, t being the time, $t\max$ being said time position and $x(t)$ being said signal, and
(b2) calculating said phase p according to $p = 2\pi f \cdot t\max$

25. (Previously Presented) The apparatus according to claim 18, wherein the signal is a sampled signal represented as a signal vector of N signal values at N sampling times.

26. (Previously Presented) The apparatus according to claim 25, wherein the processing means are designed to carry out, in step (b), the steps of (b1) calculating said amplitude according to the formula
$A = g \cdot \left(\max\{x(k) \cdot \cos(2\pi\mu(k - k\max)/N)\} + \min(x(k) \cdot \cos(2\pi\mu(k - k\max)/N)\}\right),$
A being the amplitude, g being a predetermined factor, μ being a number of the respective predetermined frequency, k being a number of the sample, $k\max$ being this number of the sample at said time position, and $x(k)$ being a k-th component of said signal vector, and
(b2) calculating said phase p according to $p = 2\pi\mu \cdot k\max/N$.

27. (Previously Presented) The apparatus according to claim 26, wherein values for μ have the form $2^{\ell} \cdot v$, ℓ and v being integer numbers.

28. (Previously Presented) The apparatus according to claim 26, said apparatus further comprising a stored sine or cosine table for calculating cosine values of the formula.

29. (Previously Presented) The apparatus according to claim 18, wherein the signal is a multi-carrier signal.

30. (Previously Presented) The apparatus according to claim 29, wherein the signal is a discrete tone modulated signal.

31. (Currently Amended) ~~The apparatus according to claim 18, further~~ An apparatus for reducing the crest factor of a signal using a plurality of partial correction signals having respective predetermined frequencies, said apparatus comprising:

processing means designed to carry out, for each one of said partial correction signals, the step of:

(a) determining a time position of a maximum absolute amplitude of the signal, ~~comprising~~

comparison means for comparing the maximum absolute amplitude determined in step (a) with a predetermined value, said comparison means being coupled with the processing means, and ~~the~~

output~~ting~~ means coupled to the comparison means,

wherein if the maximum absolute amplitude is above the predetermined value the processing means performs:

b) calculating an amplitude and a phase for the respective partial correction signal depending on said maximum absolute amplitude and said time position determined in step (a),

(c) subtracting the respective partial correction signal from said signal to obtain a partially corrected signal which is used as the signal in step (a) for the next one of the plurality of partial correction signals, and returning to step (a) for calculating an amplitude and a phase for the next partial correction signal, and

the output means outputs the last obtained partially corrected signal as the corrected signal having the reduced crest factor, and

wherein if ~~such that, when~~ the maximum absolute amplitude ~~determined in step (a)~~ is below ~~a~~the predetermined value, the output means outputs ~~steps (b) to (d) are omitted and~~ the signal ~~is output~~.

32. (Previously Presented) The apparatus according to claim 25, wherein said apparatus comprising preprocessing means for preprocessing said signal vector according to the steps of

(a1) forming a first auxiliary vector containing as elements the M signal values having the M largest absolute values of the N signal values, M being smaller than N,

(a2) forming a second auxiliary vector indicating the positions of the elements of the first auxiliary vector in the signal vector, wherein the preprocessing means are coupled to the processing means so that the processing means perform the steps (a) to (c) on the first auxiliary vector instead of on the signal using phase information of the second auxiliary vector, and

wherein the outputting means are designed to carry out the steps of

(d1) calculating a correction vector for the signal vector based on said amplitudes and said phases calculated in step (b) translated to phases for the signal vector using the second auxiliary vector,

(d2) subtracting said correction vector from said signal vector to obtain a corrected signal vector, and

(d3) outputting a signal corresponding to said corrected signal vector as the corrected signal having the reduced crest factor.

33. (Previously Presented) The apparatus according to claim 32, wherein the processing means are designed to carry out, in step (b), the steps of (b1) calculating said amplitude according to

$$A = g \cdot (\max\{xm(k) \cdot \cos(2\pi\mu(pm(k) - pm(k\max))/N)\} +$$
$$+ \min\{xm(k) \cdot \cos(2\pi\mu(pm(k) - pm(k\max))/N)\}),$$

A being the amplitude, g being a predetermined factor, μ being a number of the respective predetermined frequency, k being a number of the sample, $k\max$ being the number of the sample at said time position, $xm(k)$ being element k of said first auxiliary vector, $pm(k)$ being element k of said second auxiliary vector, and (b2) calculating said phase p according to $p = 2\pi\mu \cdot k\max/N$.

34. (Previously Presented) The apparatus according to claim 32, wherein the preprocessing means are designed to carry out, in steps (a1) and (a2), the steps of:

(aa1) assigning the M last elements of the signal vector to elements of the first auxiliary vector,

(aa2) assigning the M last sample positions of the signal vector to the elements of the second auxiliary vector,

(aa3) setting a counter to 0,

(aa4) determining the element of the first auxiliary vector having the smallest absolute amplitude,

(aa5) incrementing the counter by 1,

(aa6) checking if the element of the signal vector designated by the counter has a larger absolute amplitude than the element of the first auxiliary vector having the smallest absolute amplitude, and, if not, returning to step (aa5),

(aa7) replacing the element of the first auxiliary vector having the smallest absolute amplitude by the element of the signal vector designated by the counter, and replacing the corresponding element of the second auxiliary vector by the counter,

(aa8) returning to step (aa4) until the counter has reached $N - M$.